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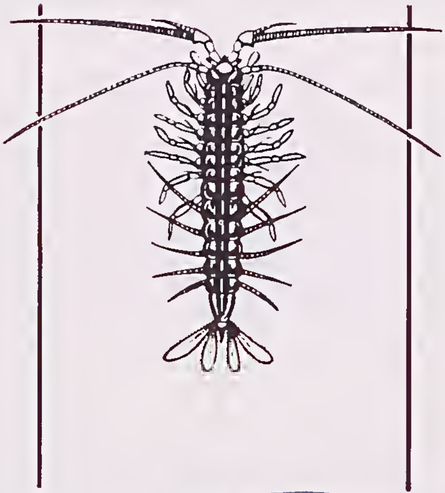

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LITHOSTRATIGRAPHY OF THE ORDOVICIAN GORDON GROUP, MOLE CREEK, TASMANIA

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Manuscript received 7/1988 *Published 1/1989*

SUMMARY

The 1200m thick carbonate sequence of the Chudleigh Limestone Subgroup (Gordon Group) near Mole Creek conformably overlies the siliciclastics of the Magog Subgroup (Denison Group) and is conformably overlain by over 45m of siliciclastic Eldon Group correlate. The Chudleigh Limestone Subgroup is divisible into six conformable formations: the Standard Hill Fm. (145m thick), the Ugbrook Fm. (120m), the Sassafrass Creek Fm. (145m) the Dogs Head Fm. (470m) the Mole Creek Fm. (30-75m), the Overflow Creek Fm. (240m) and the Den Fm. (133m). The Den Fm. is conformably and sharply overlain by 15m of siltstone containing *Isorthis* and then 20m of white quartzite. Both of these units are placed in the Eldon Group by Burrett whilst Banks places the lower unit in the Gordon Group. The Chudleigh Limestone Subgroup contains a record of tropical, shallow water, dominantly peritidal, carbonate environments and faunas lasting about 25 my from the Late Whiterockian (Chazyan) through the Edenian. Deposition and basinal subsidence averaged 0.05mm per year.

INTRODUCTION

The purpose of this paper is to summarise and define the structure and lithostratigraphy of the limestones in the Mole Creek-Mayberry district of northwestern Tasmania (figs. 1&2) prior to the publication of detailed palaeontological and sedimentological studies.

Limestone was quarried and burnt at Chudleigh as early as 1826 (McKay 1962:80) and was first noted in a geological context by Strzelecki (1845). Gould (1866) suggested that the limestone at Chudleigh was Lower Silurian (what we would now term Ordovician) and correlated it with limestone in the Florentine Valley. Johnston (1888;39-40) tentatively suggested that the "ancient *non-fossiliferous* limestones at Chudleigh, Circular Marshes"... etc. were Upper Cambrian and "probable equivalents of the Canadian Period" (italics added). He placed these limestones in his Primordial Calciferous Group, leaving the Gordon River Group limestones in the Lower Silurian.

Serious geological work began in the area with the regional mapping by Jennings (1963). Burrett and Goede (1987) produced a field guide to the geology and geomorphology of the area. Banks (1957,1962) recognised the *Maclurites-Girvanella* palaeoecological assemblage near the base of the limestone sequence and a diverse coralline-stromatoporoid fauna near the top. A taxonomically very similar fauna had earlier been described by Hill (1942, 1943) from Liena (12km west of Mole Creek). She described *Favistina cerioides, Plasmoporella cf. convexotabulata, Favosites marginatus and Falsicatenipora chillagoensis* and suggested an Upper Ordovician age for the assemblage. Banks and Johnson (1957) assigned a Chazyan (=Upper Whiterockian) age to the lower assemblage. Webby and Banks (1976) and Webby (1979) described part of the stromatoporoid fauna. Stait (1980,81,82,83 & 85) and Stait and Flower (1985) described the nautiloid fauna. The taxonomic descriptions and detailed biostratigraphy of the conodonts (Burrett, 1978), brachiopods (Laurie, 1982) and corals (Kenna, 1978) will be published in the near future. Rao (in press) has studied the trace elements and oxygen and carbon isotopes from the Chudleigh Limestone and concludes that the carbonates are tropical to sub-tropical limestones deposited at an average temperature of 23°C.

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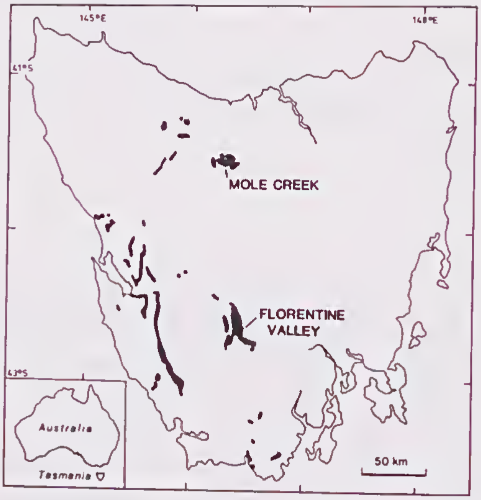

Fig. 1. Map of Tasmania showing distribution of Gordon Group and major localities mentioned in text. Modified from Rao (in press).

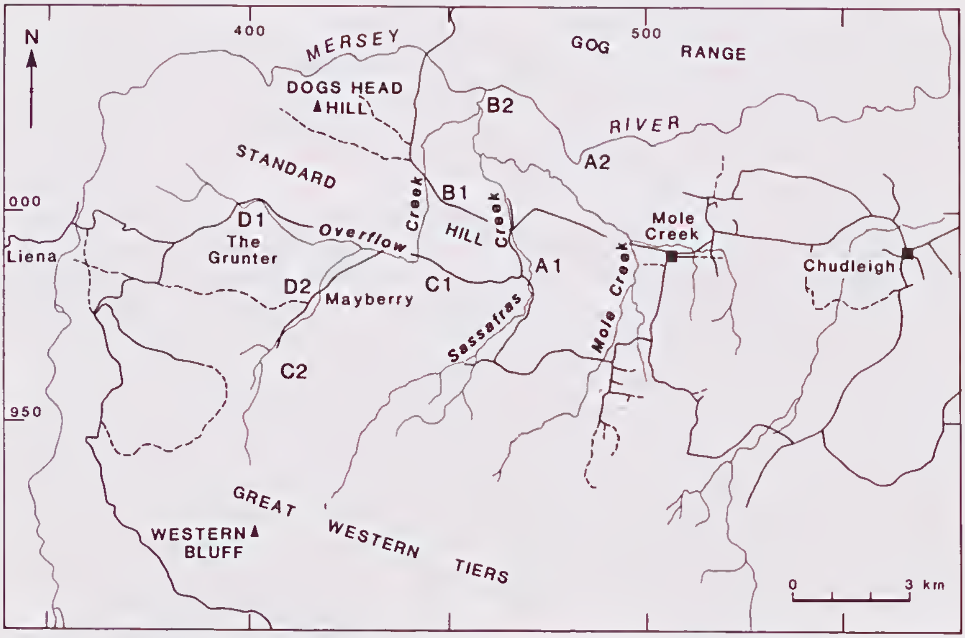

Fig. 2. Locality diagram of the Mole Creek-Mayberry district (modified from Laurie, 1982).

STRUCTURAL GEOLOGY

The Lower Palaeozoic rocks of Tasmania were deformed in the Devonian. Those in northwestern Tasmania were folded into generally northwest trending folds. The major structure in the Mole Creek area is the slightly asymmetrical, southeast plunging Standard Hill Anticlinorium (fig. 3). This anticlinorium brings the older, more resistant, Moina Sandstone to the surface to form Standard Hill. The limestone to the south of Standard Hill is more deformed than that to the north and displays strong and obvious cleavage and tectonic stylolites. Numerous second-order folds are obvious to the south of Standard Hill (fig. 3) and complicate the recognition of a stratigraphic sequence. The rarity of such small folds to the north of Standard Hill facilitates the recognition of such a sequence.

Small strike faults are present but do not disrupt the stratigraphic sequence seriously. The existence of a major fault along the Mersey River is demonstrated by the presence at the same topographic level of gently dipping conglomerates of the Roland Formation on the northern bank of the river and by limestones of the upper part of the Gordon Group on the southern bank. The stratigraphic displacement is about 2000m and the sinuous course of the presumed fault suggests that it is a low angle fault. Dips in the limestone, near the fault, are frequently high and the limestone is locally shattered.

LITHOSTRATIGRAPHY

Banks and Williams (1986) have defined the Wurawina Supergroup as including the Denison, Gordon and Tiger Range Groups. In the Mole Creek area, the Denison Group comprises the Magog Subgroup which consists of, at the base, the Roland Conglomerate overlain conformably by the Moina Sandstone. These formations have been defined by Jennings (1963) and are not considered in the present study. The Gordon Group conformably overlies the Moina Sandstone and consists of the 1200m thick, dominantly carbonate, Chudleigh Subgroup which comprises six formations. The Gordon Group is conformably overlain by siliciclastics of the Eldon Group consisting of 15m of fossiliferous siltstones and fine sandstones and 30m of unfossiliferous white quartzite (figs. 4-6).

The Chudleigh Subgroup is that 1200m thick sequence of mainly micritic carbonates and minor siltstones and shales that outcrops from the northern slope of Standard Hill at grid reference DP465986 to the limestone quarry just south of the Mersey River at grid reference DQ467028. The subgroup consists of six conformable formations (figs. 5 & 6). The contact between the limestone and underlying Moina Sandstone is not exposed on Standard Hill but can be placed to within 3m stratigraphically. The contact can be mapped to within 5m at The Grunter (at DQ403002). Jennings (1963:57) showed that the contact is gradational in the Mersey River south of Liena and gradational contacts are known near Lorinna (Gee, 1966, pp.36-37) and along Claude Creek (20km northwest of Mole Creek township). Quartz sandstones, siltstones and calcarenites crop out at the gradational contact along the Mersey River (at DP354954) through a stratigraphic thickness of 60m. The quartz arenites are poorly sorted and contain well rounded, mainly metamorphic quartzite, pebbles with a maximum diameter of 20mm. Interference ripple marks are present.

Standard Hill Formation

The Standard Hill Formation is that 145m thick sequence of oncolitic carbonates and minor dolomitic micrites and calcarenites, conformably overlying the Moina Formation and outcropping between the northern slope of Standard Hill at its eastern end at grid reference DP 465986 and DP 467989. It is overlain conformably by a nodular, argillaceous micrite at most localities but at and near to The Grunter (DP 403002) it is gradationally overlain by calcarenites and by quartz arenites. It is 140m thick at The Grunter but strain analyses of the deformed oncolites there suggest that the pre-Devonian stratigraphic thickness was considerably (about 60%) less (Seymour 1975, 1980, Seymour *in* Burrett and Goede, 1987).

The Standard Hill Member was recognised as a distinctive lithostratigraphic unit by Banks

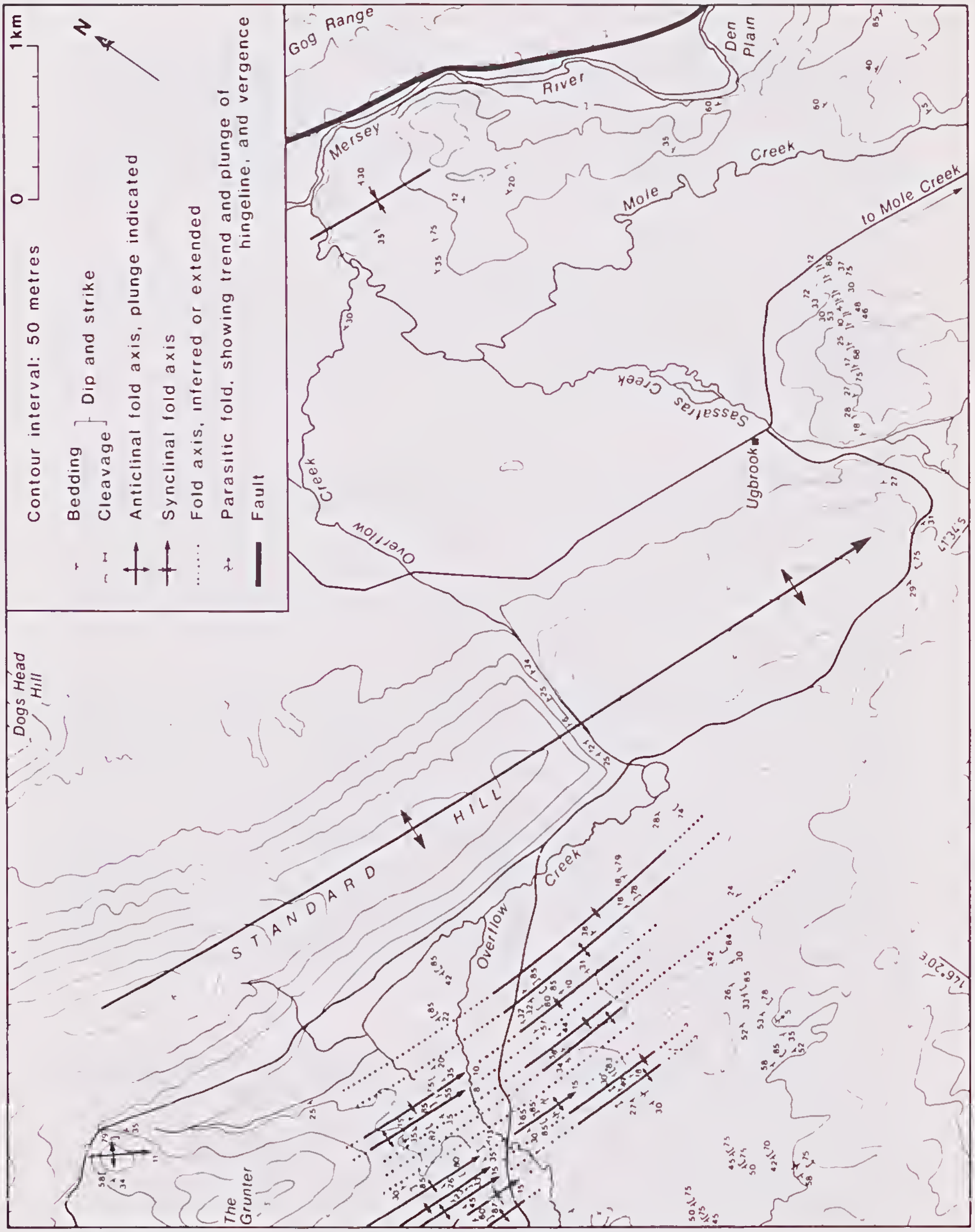

Fig. 3. Structural map based mainly on Seymour (1975).

and Johnson (1957) who referred to it as the *Malclurites-Girvanella* bed. This lithotope occurs widely throughout the western half of Tasmania. The Standard Hill Formation is well exposed at the eastern end of the northern slope of Standard Hill but, further to the west, is covered by thick talus. The formation is well exposed at The Grunter (fig. 2, grid ref. DQ403002), near the caves at DP397995 and DP398990 and in a creek bed at DP441988.

The lowest outcropping limestone is two metres of non-oncolitic dolomitic micrite. Near The Grunter the basal, shaley micrite displays thin cryptalgal laminae and is overlain by 10m of oncolitic limestone containing shell beds with 'random' bioturbation. The succeeding approximately 130m consists of interbedded oncolitic and oolitic sparites, cryptalgal laminated micrites and biocalcarenites at The Grunter and by oncolitic sparites, rarely oolitic, north of Standard Hill.

There are about 40m of siliciclastics overlying the oncolitic limestone at The Grunter and nearby at Kubla Khan cave (at DP397995). At Kubla Khan, the quartz arenites contain rhynchonellids and asaphids. Twenty metres from the summit of The Grunter the limestones are non-oncolitic calcarenites, micrites and dolomitic micrites and contain thin (averaging 2mm), undulating, very prominent beds of quartz arenite separated by, on average, 0.5m of limestone. The frequency of these siliciclastic beds increases towards the summit. Many are cross-bedded and indicate current directions from the north. Several of the limestone beds contain a profusion of burrows, perpendicular to bedding. Some of the siliciclastic beds are pebble-grade and contain well-rounded vein quartz. A few quartz clasts are 10mm in diameter suggesting proximity to land. The lenticular outcrop form of this siliciclastic member of the Standard Hill Formation and its relationship to the overlying, probably lagoonal, Ugbrook Formation suggests that this member was deposited as an offshore bar (Clota *in* Burrett and Goede 1987:fig. 15).

The most important fossils in the Standard Hill Formation are species of the chlorophyte *Girvanella* (Banks & Johnson, 1957). The distinctive flat-bottomed gastropod *Maclurites florentinensis* Banks & Johnson is abundant, though its opercula are rare. These large snails often formed the base for colonies of stromatoporoids. Webby (1979b) has described *Stromatocerium bigsbyi*, *Stratodictyon vetus* and *Labechia aff. prima* from this formation. Strophomenid brachiopods are common in the biocalcarenite beds. The most abundant nautiloid is *Standardoceras burretti* Stait (Stait, 1981). This genus has not been found beyond the Mole Creek area.

Ugbrook Formation

The Ugbrook Formation is that 120m thick sequence of nodular limestones outcropping between DP467989 and DP471989. It conformably overlies the oncolitic Standard Hill Formation and is overlain by a 3m thick crinoidal biocalcarenite, the basal member of the Sassafras Creek Formation. The formation outcrops on the small hill at the eastern end of Standard Hill, in outcrops to the east of Sassafras Creek (at DP473985), in a road cutting at DP467984 and to the south of Standard Hill south of The Grunter.

The Standard Hill Formation passes both laterally and vertically into the overlying Ugbrook Formation. These relationships may be seen at the eastern end of Standard Hill. The 'nodules' of micrite are in beds between 80 and 200mm thick and are surrounded by bioturbated mudstone that is pyritic and varies from black to reddish brown when weathered. The 'nodules' are probably formed by differential compaction of once alternating, continuous beds of argillite and micrite. Many of the bedding planes are covered with 3-5 mm wide strips composed of shell debris.

The formation is sparsely fossiliferous but near The Grunter the base of the formation contains rhynchonellids and asaphids (at DP400989) and at the road cutting at DP467984 strophomenids are abundant. Laurie (1982) has identified species of *Hesperorthis*, *Rhynchotrema* and a new plectambonitacean genus from the base and top of this formation and *Chaganella* and ? *Oepikina* from the top. The uppermost bed of the formation is 3m of micrite that contains abundant trilobites. Conodonts are rare but scolecodonts are very abundant.

Sassafras Creek Formation

The Sassafras Creek Formation is that 145m thick sequence of micrite and slightly dolomitic micrite that outcrops between Sassafras Creek at DP471989 and grid reference DP472993. The base consists of a 3m crinoidal biocalcarenite, forming the base of a cliff section, and the top consists of a 1.5m thick oncolitic unit succeeded by a gastropod-rich shell bed. This formation is well exposed at several localities including the type section and a small disused quarry to the south of Standard Hill at DP463982. At this quarry, there is a 7m thick sequence from, at the base, cryptalgal-laminated dolomitic micrites with large (1m high) stromatolites, flat-pebble breccias and dismicrites, overlain by bioturbated micrites that grade up into a polyzoan, stromatoporoid, coralline unit interbedded with dolomite bands. The sequence terminates with *Tetradium*-rich micrites. The basal calcarenite is followed by 138m of dolomitic micrites with several shell beds. At 410m above the base of the Chudleigh Subgroup a 0.1m thick shell bed containing large (up to 20mm diameter) oncolites is taken as the top of the formation.

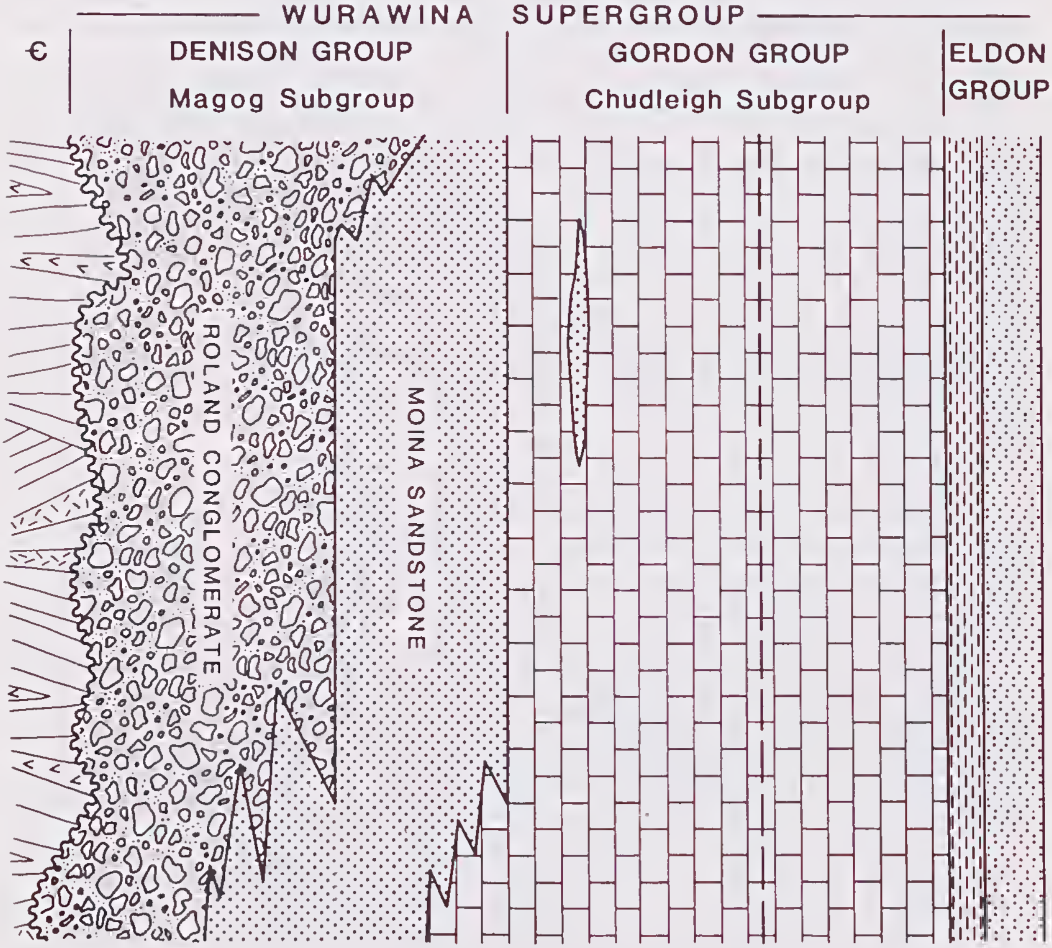

Fig. 4. Diagrammatic representation of suggested facies relationships in the Mole Creek area.

Webby (1979a:106;1979b:244) reported *Labechia banksi* throughout the formation and *Rosenella* and *Cryptophragmus* in the highest parts. *Pachystylostroma* occurs in the uppermost part of the Sassafras and in the lower part of the overlying Dogs Head Fm. *Lichenaria* is common throughout.

Dogs Head Formation

The Dogs Head Formation is that 470m thick sequence of micrites and dolomitic micrites outcropping between grid references DP472993 and DP475997. Chert is common in the lower two thirds of the formation and worm burrows are common in the upper third. The base is just below the first appearance of chert nodules and above a distinctive gastropodal/oncolitic horizon. The top of the formation is marked by the incoming of reddish-brown, trilobite-rich, quartz siltstone. The formation is well exposed in its type section as well as on Dogs Head Hill at DP417023 and in the east Mayberry section at DQ442984. The base is taken immediately above the gastropod/*Tetradium* bed at the top of the Sassafras Creek Formation. The basal bed is a very dolomitic micrite containing abundant, 40mm diameter stromatoporoids. The succeeding 470m of micrites and dolomitic micrites includes numerous beds containing silicified shells and several chert nodule beds. Much of the sequence consists of very dolomitic, strongly bioturbated micrites.

Four transgressive cycles may be recognised in this formation. Each cycle commences with dismicrites and often mud-cracked cryptalgal-laminated dolomitic micrites interpreted as indicating supratidal to high intertidal environments. Burrows, perpendicualr to bedding, are common. These high intertidal beds are overlain by highly bioturbated, dolomitic micrites. The burrows are parallel to bedding, are usually dolomitised and may cover up to 90% of the bedding planes. Oncolites are present in thin beds (0.1m) and one 3m thick oncolitic bed may be traced along strike for two kilometres. Each cycle terminates with a highly fossiliferous silicified shell bed, which is interpreted as representing either a very low intertidal or high subtidal environment. The lowest fossiliferous horizons contain *Labyrinthites* and *Calathium* associated with rotelliform gastropods in the northeastern section and with *Foerstephyllum* in the northwestern section. Large colonies of *Labechia* are common in the lower half the the formation. Webby (1979a:106) noted that *Pachystylostroma* is common near the top of the formation, *Labechia, Labechiella* and *Rosenella* less common. *Lichenaria* (including *L. ramosa),* heliolitids and halysitids occur in the high intertidal to subtidal lithofacies throughout the formation. *Cryptophragmus* is found 320m above the base of the formation and *Tetradium,* usually not in life position, is very common, particularly in the upper prt of the formation. *Palaeophyllum* enters at about 400m above the base of the formation and *Bajgolia* (or?*Eofletcheria*) is found in the upper third of the formation associated with *Thamnobeatricia* and *Coccoseris.* Trilobites are rarely silicified in this formation though unsilicified trilobite segments are common in thin sections. *Pliomerina* occurs in one bed 300m above the base of the formation. Stait (1981) has identified *Discoceras* and *Gorbyoceras.* A variety of polyzoa, pelecypods, gastropods and rostroconchs are also present. Laurie (1982) has identified two new brachiopod genera half way through the formation and *Holtedahlina* and *Dinorthis* from 70m below the top of the formation.

Mole Creek Formation

The Mole Creek Formation is that sequence of fossiliferous, red to grey quartz siltstones, black shales, calcarenites and minor micrites between grid references DP475997 and DP476998. The top in the northeastern section, is an unfossiliferous quartz siltstone 75m above the basal bed which is a 60mm thick, red-weathering siltstone. In the northwestern section the formation is 30m thick and the base is fine sandstone and the top is a biocalcarenite. At some localities, for example along Overflow Creek, the Mole Creek Formation is difficult to recognise and is represented by fossiliferous, black, foetid, shaly, micrites. The formation is impersistent to the south of Standard Hill and outcrop is restricted to patches along a strike ridge at DP432972 where it occurs as 40m of fossiliferous very weathered, buff siltstone.

The siltstone contains *Pliomerina,* illaenids and stictoporellids. Laurie (1982) has identified

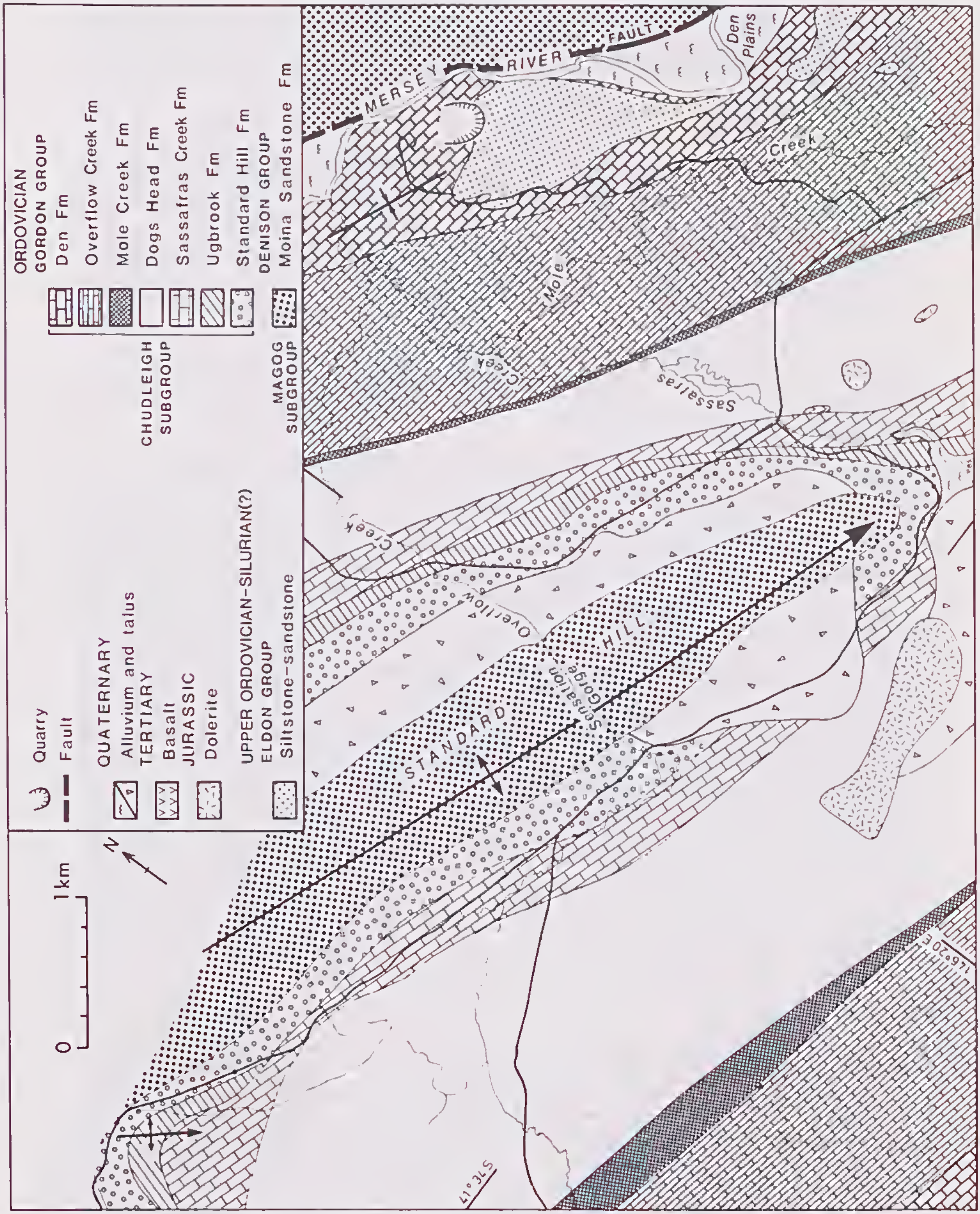

Fig. 5. Geological map of the Mole Creek-Mayberry area based on Burrett (1978) and Clota (1982).

Dinorthis in the northwestern section. *Eofletcheria* and *Nyctopora* are found in micrites between the two siltstones in the northeastern section. The ostracode *Dominina pagei* is common and remains one of a few faunal links with the deep-water, graptolite-bearing Shoemaker beds at Surprise Bay in southern Tasmania (Burrett *et al.* 1983, 1984). A variety of nautiloids, brachiopods, polyzoa and trilobites are found near the top of the formation.

The fauna is taken as representing the deepest subtidal environment in the sequence even though this may not have been more than 5-10m. A similar lithology occurs in most of the Gordon Group sections and contains a similar fauna. Within the limits of micro-and macrofossil correlations these units (eg. the Lords Siltstone in the Florentine Valley, Corbett and Banks, 1974, the basal part of the Precipitous Bluff beds at Precipitous Bluff, Burrett *et al.*, 1981, and the siltstone within the Gordon Group south of Zeehan, Ellis, 1984) appear to be isochronous throughout Tasmania leading Banks (*in* Banks and Baillie, in press) to suggest a relationship to basement heating and tectonic uplift and leading Burrett *et al.*, (1984) to suggest a general tilting of Tasmania to the south with the Mole Creek area shallowing after this time and the Precipitous Bluff and Florentine Valley areas deepening.

Overflow Creek Formation

The Overflow Creek Formation is that 240m of mainly unfossiliferous dolomitic micrites, dolomitic siltites and dolomicrites and dolosiltites outcropping between the small hill, south of the road to Mole Creek at DP476998 and the small outcrop to the north of the gate to The Den at DQ478009. To the south of Standard Hill the formation is 370m thick. There is excellent exposure from the junction of a dry creek bed with Sassafras Creek at DQ459008 to the top of the hill 700m to the south of the Mole Creek quarry at DQ464017. The formation is also well exposed on large bedding plane slabs in Overflow Creek and on the banks of the Mersey River near Union Bridge at DQ444038.

The bulk of the formation consists of thinly-bedded (~50mm) cryptalgal-laminated micrites alternating with 10mm thick beds of dolomicrite, biointrasparites, dismicrites and randomly bioturbated micrites. Many of the micrites contain gastropod fragments and corals enter near the top of the formation. Small, 100mm high, domal stromatolites are rarely present. *Palaeophyllum* and nautiloids are found near the base of the formation and the uppermost beds contain *Eofletcheria*. Gastropod fragments are found throughout and stromatoporoids are found in some pelmicrite beds.

Many of the pelmicrite and dismicrite beds are disconformably overlain by cross-bedded beds of pelmicrite and calcarenite. Several of these units are present near the top of the unit and contain the only conodonts from this formation. These units are interpreted as high intertidal channel deposits. Basnayake (1975) interpreted the high Sr, Mg and Na values in this formation as indicating high salinities in either the depositional or in the early diagenetic environment. Wedge-shaped calcite pseudomorphs of evaporites are found in a 0.3m thick bed, overlying a mudcracked dismicrite, to the south of Standard Hill at DP428965. All the evidence points to a tidal flat environment with possibly even some supratidal interludes.

Den Formation

The Den Formation is that 133m of coralline calcirudites and sparsely fossiliferous micrites that outcrop between 120m north of the Den homestead and the valley slopes to the east of the bend in the Mersey River at DQ483010 overlooking the Den Plains. Good exposures are found at a small syncline near the quarry entrance at DQ462025 and through the quarry section. The formation is also found near Marakoopa Cave at DP406966 where it is 80m thick.

The base of the Den Formation is marked by a coral-rich bed at the top of the Overflow Creek Formation. This is overlain by 55m of micrites and coralline calcirudites, dolomitic in places, which pass upwards into 38m of sparsely fossiliferous micrites containing many thin (30mm) black shales. The upper 40m of the formation is an unfossiliferous, light-coloured (grey-white) micrite. This unit contains thread-like, calcite-filled fenestrae.

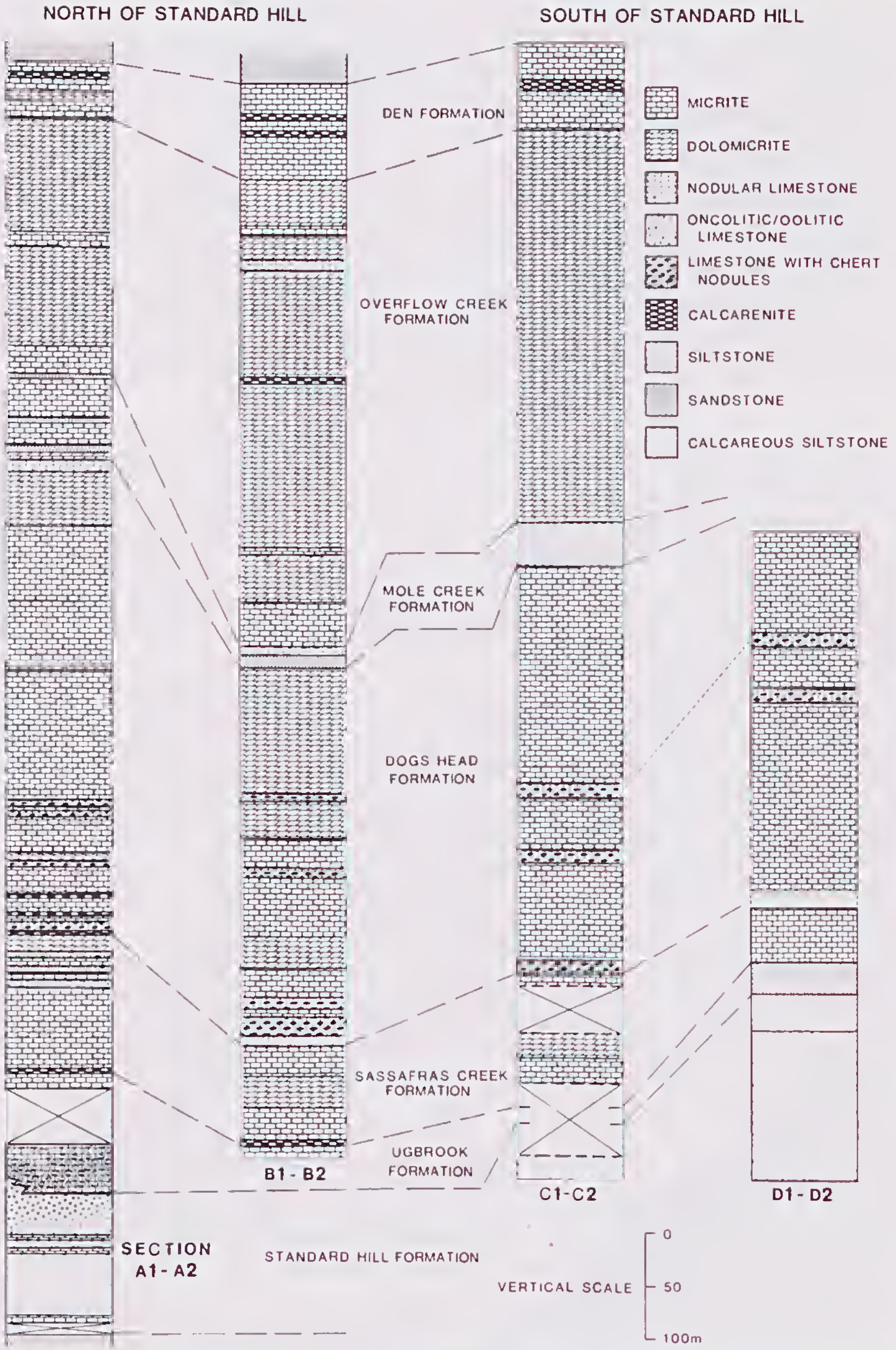

Fig. 6. Stratigraphic columns through the Chudleigh Subgroup. Location of sections shown on fig. 2. Sections A and B based on Burrett (1978), C and D based on Clota (1982).

Favistina and *Palaeophyllum* occur near the base of the formation and *Falsicatenipora sp.* and *Plasmoporella convexotabulata* (and? *Grewingkia)* are found 8m from the base (identifications by Kenna, 1978 and Banks). *Foerstephyllum* is found higher in the sequence and is followed by *Diploepora, Favistina, Favosites, Falsicatenipora, Tryplasma, Streptelasma.* The stromatoporoids *Clathrodictyon plicatum, C. molense, C.*sp., *Ecclimadictyon undatum* have been described from this formation by Webby and Banks (1976) and *Labechia, Labechiella, Rosenella* and *Aulacera* noted by Webby (1979:106). There are also several species of pelecypods and polyzoans. Stait (1982) has identified aff. *Augustoceras molense.*

Given the diversity and the abundance of corals the fauna of the Den Foramtion is very probably subtidal.

Eldon Group Correlates

The Chudleigh Limestone Subgroup is sharply and conformably overlain by a 15m thick fossiliferous light brown quartz siltstone containing *Isorthis,* leptaenids and a proetid. This is overlain conformably by more than 20m of white, unfossiliferous quartzite. Both units are well exposed in the Mole Creek quarry and in the hill between the quarry and the The Den. Two supra-formational groupings have been proposed for units near the upper boundary of the Gordon Group. The first places all of the siliciclastics above the Gordon Group carbonates in the Eldon Group or in the Tiger Range Group (Corbett and Banks, 1974, Burrett *et al,* 1984, Burrett *in* Burrett and Goede, 1987). The second (Corbett and Banks, 1975, Baillie, 1979, Banks and Williams, 1986, Banks and Baillie, 1988) places the 260m of the Arndell Sandstone (=Westfield Sandstone) in the Florentine Valley and the 15m of siltstone at Mole Creek in the Gordon Group. The reasons for placing these siliciclastic units in the Gordon Group are given by Banks and Baillie (1988 p.201): "The top of the Gordon Group is taken here as the base of the Tiger Range Group (Baillie, 1979), ie. the base of the Gell Quartzite and of the Eldon group, ie. the base of the Crotty Quartzite (Gill and Banks, 1950), as these horizons are those most easily recognised in field mapping. In the Tiger Range the contact is marked by a change from sandstone to orthoquartzite...". However, *The International Stratigraphic Guide* (Hedberg 1976, p.34) states that the purpose of setting up groups is simplification and generalization and that a group is one or more formations "...with significant unifying lithologic features in common." and that the "...proposal for recognition of a group should outline clearly the unifying characteristics on which it is based." The senior author agrees with Hedberg (1976) and prefers to follow the tripartite simplifying and generalizing scheme shown in fig. 4 and table 1 with the Denison Group being predominantly siliciclastic, the Gordon Group being predominantly carbonate and the Eldon and Tiger Range Groups predominantly siliciclastic. In the Florentine Valley-Tiger Range area the siliciclastic Arndell Sandstone is grouped with the siliciclastics of the Tiger Range Group. In Mole Creek, the siliciclastics overlying the limestone are grouped with the Eldon Group rather than with the bulk of the underlying carbonates with which they have no lithologic affinity.

DISCUSSION

Far from being a lithologically monotonous sequence, as was previously thought, the Chudleigh Limestone Subgroup may be subdivided into six easily recognisable and mappable formations each of which is full of sedimentological and palaeontological interest. The conformable 1200m thick sequence spans much of Ordovician time from the Late Whiterockian to the Ashgill representing a time span of about 25 million years. During this time the carbonate production kept pace remarkably well with basinal subsidence and, if compaction effects are ignored, averaged 0.05mm per year. At no time was the water depth more than a few metres, for most of that time peritidal conditions prevailed and large eustatic changes in sea level are not apparent.

ACKNOWLEDGEMENTS

Numerous colleagues have helped with our work. These include Bernard Pierson, C. Prasada Rao, Barry Weldon, Clive Calver, Bryan Stait, Kathi Stait, Clive Boulter, Sam Basnayake, John Laurie and Barry Webby. This work was supported by the A.R.G.S. and the University of Tasmania.

		DENISON RANGE-FLORENTINE VALLEY AREA					MOLE CREEK AREA	
SILICICLASTICS	ELDON GROUP	TIGER RANGE SUBGROUP	McLeod Ck Fm					
			Currawong Quartzite					
			Richea Siltstone					
			Gell Quartzite					Sandstone
			Arndell Sandstone Fm		Westfield Fm			Siltstone
CARBONATES	GORDON GROUP		Benjamin Fm	Upper Limestone Member			CHUDLEICH SUBGROUP	Den Fm
				Lords Siltstone Member				Overflow Creek Fm
								Mole Creek Fm
				Lower Limestone Member				Dogs Head Fm
			Cashions Creek Formation					Sassafras Fm
			Karmberg Formation		Wherretts Chert Member			Ugbrook Fm
								Standard Hill Fm
SILICICLASTICS	DENISON GROUP		Squirrel Creek Fm	Upper Sandstone Member	Florentine Valley Formation	Mt Field Siltstone Member	MAGOC SUBGROUP	Moina Sandstone Fm
				Siltst.-limest. Member		Pontoon Hill Siltstone Member		
				Lower sandstone Member		Churchill Sandstone Member		Roland Conglomerate Fm
			Reeds Conglomerate		Tim Shea Sandstone			
			Great Dome Sandstone Fm					
			Singing Creek Fm					

Table 1. Lithostratigraphic nomenclature for the Wurawina Supergroup strata in the Florentine Valley-Denison Range area and Mole Creek.

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